





HABIT AND MEMORY AS ELEMENTS IN THE  
NATURE OF MUSIC

BY

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FOR THE

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IN

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B I B L I O G R A P H Y

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## MUSIC IS BOTH A SCIENCE AND AN ART

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### INTRODUCTION

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"The philosopher in any branch of aesthetics is but a traveller passing through the land, not like the spies of Joshua that he may spy it out and return and possess it, but that he may make of it a comprehensive study in order that his map of the whole realm of art may be complete."<sup>1</sup>.

And since he is nothing more than a surveyor it is well for him to learn from musicians those facts which it has taken long years of life time experiences for them to gather. On the other hand the musician should not be averse to gather all of the philosophers important data which would help him. And one reason why the philosophy of music is still so immature lies in the fact that we have always considered more the cultivation of music for its own sake, and have made but slight attempts in comparison in trying to comprehend the real principles of music and their interdependence. We have had a philosophy of poetry since the days of Plato, but we have not had a philosophy of music until comparatively late years. But an art must be fully developed before it can be philosophized or examined and theorized and music did not attain such a state of maturity until recently. It stands to reason that we will have ever changing ideas, new schools and constantly changing conceptions and notions concerning musical thoughts. Because

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1. G. W. Britan, Philosophy of Music, Chapter I, page 13.





any art follows the line of seeking always for something new rather than developing the old and so we may expect our music to change in design and ideas with the different fancies and opinions of each age. But it is mature enough that we have principles and facts upon which philosophy can proceed. "And it will help perhaps, to define our problem if we contrast for a moment the study of music from the standpoint of the musician and from the point of view of a student of philosophy."<sup>1</sup>.

The musician studies his art for its own sake and because he is a musician and is making music his great objective, he naturally goes deeper into its meaning, understands it and appreciates it better than anyone else. Music is classed in the category of Fine Arts and it must be made worthy of the place it holds there. That is the work of every musician, to see that it has a content equal in its way to our good literature and our best paintings. It must express the same great truths of life that our literature does, it must have contents of fine thoughts, but the expression of them is necessarily different from the contents of our literature. In music we express all of these things through tone pictures which we may class under the form of sense beauty. The accomplishment of these things is not so easy by far as it sounds. Perhaps for a few musical geniuses these things may be more or less easy, but for most musicians it is a long road and one filled with plateaus of discouragement almost equalling those of progress and accomplishment. Most musicians reach their goal through a thought-

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1. H. H. Britan, Philosophy of Music, Chapter I, page 10.





ful study of the structural elements of a great many compositions and a strict concentration on some very particular works, this and the study of technique of musical forms and principles are the means of obtaining the desired end. To study the architecture of any composition it is necessary to first recognize the different modulations and the relation of keys. The musician must recognize "the logical unity and balance of rhythmic structures and to pick out the themes and the sub themes of the various movements, the exposition, development and recapitulation. Then too a musician must have musical feeling, he must be capable of appreciating musical thoughts expressed by others and also of expressing his own feelings. These elements cannot be expressed graphically. It is not enough that we solve the content of our art but we may only attain our purpose when we intelligently feel the emotions portrayed in the music of others, and are as equally capable of giving to them our musical interpretations."

Since philosophy is ever seeking for points of relation between outward points of experience and since its data is all borrowed, the study of music from the philosophers point of view is essentially different. The musicians interest centers in the art itself while the philosopher seeks for points of relation between music and the other arts.

There is every reason for the fullest cooperation between the musician and the philosopher. It would be necessary for the philosopher to deviate so far from his natural path if he had to solve all of the technical problems which belong to the musician that he would loose sight of his primary purpose. In the same manner, should the musician conserve



by borrowing from the philosopher such theories as have the greatest interest and are of the most use to him in his special work. And like the philosopher he must work out his problems in the most logical and systematic manner, having a wider vision and clearer ideas as to the relation of music to other forms of human experience.





## THE NATURE OF MUSIC

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In order to discuss the relation of psychology to music the two related things must be separately brought into view. And as our subject is mainly psychological in its nature and principles; we must bring into view the philosophical side of music. There has really been little progress along the scientific investigation of the nature of music, and even in this day we can scarcely speak of it as grounded on a scientific basis, perhaps because we have always regarded it as too sacred to be subjected to as rude a process as that of analysis, but the art side has been unduly exalted to the detriment of the science side. "Philosophy establishes the fact that every time art is based on science and without this basis of science there can be no real progress in art"<sup>1</sup> Musical art rests as surely upon a scientific basis as the art of surgery rests upon the science of physiology. And we must not ignore this principle or the true nature of music will be plunged back into superstition and this must not be done.

Music is not without its laws and principles just as all other subjects are, it has its causes just as surely as other natural phenomena. "Music has its fixed laws and principles, which, when known, can be applied to the

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1. E. F. Bartholomew "Relation of Psychology" Ch. 1.-Pg. 13





making of improvements in the art, both in theory and in relation to practice."<sup>1</sup> For example, the different kinds of musical instruments, each one has its particular adaption to one's moods of pleasure, contentment, sorrow or discontent. Each kind of instrument has its own individual and unqualified expression of character, just as each person has his or her own particular character. The violin for instance seems to express all the sentiments common to humanity; the clarinet is suitable for the expression of grief, and the flute is sweet and tender and always seems to express delight and joy. In the same manner, we find the major and minor chords affecting the ear differently and awakening in us different kinds of feelings. Major keys give us a sense of contentment and pleasure, in strong contrast to minor keys, which are more suited to express sorrow, pity, grief or fear.

Jaroslav de Zielinski has given us an interesting table of what the different keys suggest:

- C major suggests innocence, simplicity.
- F major, mild pleasures, repose.
- B flat major, happiness, peace of mind, hope.
- E flat major, the key of love and devotion.
- G sharp minor, all that is distressing is characterized by the color of this key.
- C sharp minor conveys the language of penitence.
- F sharp minor, a chilling key, always languishing after the cheerfulness of A major.
- B minor, considered as the key of patience.
- E minor, used for tender, unaffected scenes; modulating into C major.

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1. E. F. Bartholomew "Relation of Psychology". Ch.1-Pg.13



And so as physiology confines itself to the material phenomena of organisms, so these few facts are examples of musical phenomena. The different effects of various keys on the mind are psychological phenomena.

And with these facts in mind let us return to our question, What is the nature of music? We shall divide this into two general classes of views; - the subjective, music as idea, and the objective, music as form. Or we might think of the two classes as finger music and soul music.

The Herbartian School of Psychology attempts to reduce everything to form. To them this formal element is the real essence of music, and it consists "not of the mental product but of the elementary nature of tones, as determined by the excitement of the nerves."<sup>1</sup> They would have us believe that the sensation aroused in us by the charm of sound is the essential thing, and in believing this they neglect the ideal element, which is the truly aesthetic factor in our best music.

There is a very real foundation for this theory of form, because in every one of us there is a quick response to the pleasurable effect which musical rhythm gives us. The statement has been made that babies not more than ten days old have evidenced a distinct pleasure on hearing music; as a parallel to this, we have the same result when savages show such keen delight in the rhythmical sounds which they produce with their rude instruments. As evidence of the place which rhythm holds in the school of form we have the fascination connected with the dance. The latter is a mixture of

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1. E. F. Bartholomew "Relation of Psychology", Ch.1-Pg.13





what we see as well as what we hear, and these taken together produce the pleasurable effect. In all of these cases the effect depends entirely upon the succession of rhythmical sounds as we hear them, and not on any mental analysis of them.

But the soul of music is not there. Nothing very high, very beautiful and certainly no very lasting qualities would be found there if our music were only based on delightful sounds. The place it holds in our social world is convincing evidence that music has a greater depth, for as proof we have our big orchestras, choral societies and operas, and today these must be heartily supported to line and flourish. Still more universal is the use of religious music in our churches and the part it holds in our schools and in our armies. Such a survey is certainly convincing that music is preëminently the art of the people and the art of the age. If people who wished to believe that music can be reduced to form would stop and think of the state of mind which Handel must have been in when he gave to the world his great air "Rejoice Greatly, O Daughter of Zion", what a torrent of feelings which he must have been passing through, and is this not convincing that there is something greater and bigger in our masterpieces than mere nervous excitement and delightful sounds?

Dr. E. F. Bartholomew says "Music consists in more than mere sense excitation, there is present a deeper spiritual element, which gives it its true character". We think of this element as the soul of music. It is the ideal





we are striving for and which we find as strongly evidenced in musical art as in poetry, painting and sculpture. And it is this spiritual element which makes it such a great power in the world.

As Dryden sings,

"What passion cannot music raise and quell?

When Tubal struck the chorded spell,

His listening brethren stood around

And, wondering, on their faces fell

To worship that celestial sound.

Less than a God there could not dwell

Within the hollow of that shell,

That spoke so sweetly and so well,

What passion cannot music raise and quell."

Audible sound is not necessarily a factor of music, for we have Beethoven as a wonderful example of soul music. He gave to us a multitude of wonderful works and most of his greatest works after he was thirty years of age, when he could not hear at all with his outward ear. But as one man has said, "Beethoven's spiritual ear was wonderfully acute". "What soul music he must have heard as he wandered lonely through field and valleys, with no sound from the outward world to disturb him".<sup>1</sup> If these master minds wrote by hearing silent music within, it surely must be every musician's aim in performing to work towards giving to others the true heart music, as it lies in the notes which they heard when it was given to us.

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1. E. F. Bartholomew Ch. II-Pg. 21





Our aim in studying music should be not the mere satisfaction and enjoyment in pleasurable sounds, but as truly thoughtful students, study art as an art, and in this manner we become artists; that is, we should be deeply impressed with a knowledge and love for what we study. Music is a universal language by which "all souls can understand", even though they do not speak in the same tongues. And although this is only in outward form, it is a world wide medium and it reaches every race where words often fail.

Some one has said that music is architectural, and regarded objectively, every art has its own definite and characterizing fundamental principles, as any system in philosophy, science or art; as for example, the elements of geometry. Thus architecture has its various styles, beginning with the Doric, the oldest and simplest of the Greek orders, afterwards adopted by the Romans and coming on down to the Gothic architecture, which spread through Europe in the 14th century, and which we connect so closely with the pointed arches, huge colored glass windows and vaulting replacing the round of the Romanesque sculpture, and even literature, in which subject matter counts so much, has some elements of form. Literature has euphony, balance, coherence and emphasis, and like literature, we find music having its own characteristic formal and architectural attributes. When we study a composition technically, we analyze it by separating it into its component parts and study each part for its own essential value. Then we study it from the angle of each part in its relation to the whole work, and value it accord-



ingly. "That musical elements of form must be some series of single tones or chords, possessing in themselves more or less unity and character, follows from the character of music itself".<sup>1</sup> Bach has given us a splendid example of this in his Inventions and Fugues, presenting the theme and repeating it in the various voices until it is firmly fixed, following usually with an exposition, development section, and closing with a marked cadence in the original key.

We may look for a very similar structure in all of his inventions. And although any work of art must have certain elements of form, which are a part of the true artistic value of the art in question, a perfect composition must also possess the ideal.

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1. H. H. Britan "The Philospphy of Music" Ch.II-Pg.24





## HABIT AS AN IMPORTANT ELEMENT IN THE NATURE OF MUSIC

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Habit as an important element in the nature of music might have been included in the preceeding chapter but I consider it of such importance as to deserve a chapter of its own. A large part of our daily waking life is made up of habit. Everything that we do easily and perfectly is done subconsciously, or as a matter of habit, as all habits minimize attention and fatigue.

According to Mr. William Chandler Bagley, any motor adjustment which has become conscious or has dropped into the margin of consciousness is called a habit.

Let us take the adjustments involved in a beginners learning to play the major scales. In acquiring this the muscles must undergo many new and complex adjustments, and these are supplemented by slow and tedious repetitions and at times it seems truly impossible to detect any improvement between one series of efforts and its successor. And we must expect to pass through plateaus of rest, when it seems that we go back rather than progress, but everytime we play a scale correctly, even though it is for ever so short a time, it does make the next trial more successful. And after a time our nerve connections become so strongly fixed that we give very little attention to the process. We do not stop and think before each movement of all the minute steps which our fingers undergo in preparation for the striking of the successive keys. Instead of thinking that first the hand is correctly placed above the key board and then each finger is properly curved, that it must be raised high and strike the key with a firm touch, wrist and arm re-





laxed; we gradually pass from this stage of consciousness, where the stimulus and adjustment hold such important places, into the state of consciousness allowing our fingers to look after themselves. Our finger movements become mechanical and we speak of the process of playing a scale as automatic. And when we have attained this stage the bringing of old adjustments back into the realms of consciousness seriously interferes with progress and efficiency. A good example of such marginal habits was given us by Professor W. C. Bagley when he said "if one has mastered the use of correct forms of speech, attention to these forms will very likely render the expression stilted and formal."

We find moral habits, habits of cleanliness, habits of honor and of industry and we cannot but stop and think of the close relation which habits have to all forms of education because the relation of habit to efficiency is direct. We would not get very far in business life if we were constantly thinking of all the little details of everyday life, they would consume so much of our time and strength that we would have but little energy left to give to the real work and business of the day. Just so the musician would have but little time left to do other than devote his attention to the adjustment of his muscles in every step of his practice. So it is pure economy to raise the unchanging functions of everyday life to the plane of automatism. "To take them out of the focus of consciousness and thus leave the higher centers free to deal with the changing, varying problems of existence."<sup>1</sup>

It is said that habit is nine tenths of life and since this is surely true," the formation of habits should bear a somewhat corresponding relation to the total task of education."<sup>2</sup>

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1. L. B. Titchuer. 2. W. Bagley. Notes from Education I.



The musician usually starts his work when a child and still during the great plastic period of his whole life and then is the time for installing the right habits most effectively, those which he will very probably carry all through his life and which are the foundation for either a good or bad start in the work which lies before him. Hence the great need for starting the right kind of habits, those which are the most effective and the most economical. Rousseau said, "Education is nothing but a formation of habits." It surely deals altogether with the formation of habits, for it aims to make some condition or form of activity into a second nature for the pupil. But this involves also the breaking up of previous habits. This power to break up habits, as well as to form them, is necessary to the freedom of the individual.. If instructors could only use all of their time and strength in directing the formation of new habits instead of finding it necessary to first break up old ones, what a splendid progress could be made, but as their teachers must ascribe the most of success to the formation of habits so either time spent in the breaking up of old bad habits or in forming new good habits is well spent for both the teacher and the pupil. The formation of all habits is a battle against nature for the "natural man" is an unclean man. Cleanliness is a product of civilization, "it represents a certain triumph over the brute" and when the tension relaxes, so to speak, man reverts to type. The same is true in forming habits of industry and honor. Again the natural man is indolent and lazy and averse to sustained effort, but civilization has brought us to a constant struggle against this revertent temptation to be inactive. What the child will be mentally, morally and physically when he is a







man or woman depends largely upon the type of habits he forms during childhood. These are the years of his plasticity and every experience and emotion that a child has leaves its record in the brain and the nervous system. It is so easy to virtually make or mar a character by forming either good or bad habits. Just as we learn to speak correctly and to pronounce words correctly so we use our fingers correctly and to play correctly, and these soon grow to be habits of every day life. Even in our play we form habits. Little boys in their struggles on the play ground, which are such grave matters to them, start the formation of habits which very often carry on into their "grown-up life." The coolness, deliberation and nerve which one child evinces in the child situations which he meets may later in life be a powerful factor in achieving his "world-fame." Professor E. F. Bartholomew has said, "Oh, that every pupil and every teacher did but realize the tremendous consequences of habit in the process of education." By every act of our daily life no matter whether it be great or small, unconsciously we are making our own fates, good or bad, we are forming those habits which will determine our character. It is a great mistake to think, Oh! Well, this time doesn't count. But every moment is registered with just that much more of a lasting desire to do the same thing over again, be it good or bad.

The law of habit building might be summed up, first, focalization upon the desired habit, second, drill in attention. A habit should be started with a strong initiative and do not allow any exceptions to occur. This is very important for soon it will become second nature to us. The basis for achieving this great friend "good habit" is to make our nervous system



our friend instead of our enemy. This is especially valuable to music students because "our musical education is a chain of habits," <sup>1.</sup> as is our entire life.

Education means the control of our minds and our nerves. "It means that the natural and appointed servants of the mind in the execution of its desires, ideals and volitions shall be ready and obedient as well as intelligent. The importance of these facts and principles needs to be thundered into the ears of every music pupil, for evil habits are the rock upon which so many make shipwreck of their hopes and aspirations."<sup>2.</sup>

Habits form themselves so slowly we do not realize that they exist until they are usually very firmly established and then they are so strong it is hard to undo what we did so easily. Every repetition of an act makes the habit just one link stronger, if the habit is a good one and soon it becomes "set" while if the habit is a bad one every repetition makes it the more difficult to overcome. To avoid this kind of a struggle every teacher should make it clear to their pupils why it is necessary for them to practice given exercises, and how much may be gained if correct habits of practicing are formed.

Start the practice with a few slow careful finger exercises, followed by scales, these also taken slowly at first and gradually increasing in speed until the desired tempo is reached, rather than sitting down at the piano and attempting to rapidly play the piece their teacher has given them. If they have not spent a certain amount of time in slow practice on this

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1. E. F. Bartholomew, Chapter VI. page 75

2. E. F. Bartholomew, Chapter VI, page 75







piece it is very doubtful whether they are not giving some poor notes a flat or a sharp which they do not want bestowed upon them and worse than this they have no conception of the correct steps in their practice. The first music lesson is the crisis in the life of every student because his later trials will undoubtedly follow in the same path which this first discharge of nervous energy has made. A first act leaves in the nerve cells a lasting impression and inclination to act again in the same way as on the first trial. And for this reason every teacher should attempt to divest pupils of the idea that little mistakes do not count, because just these 'first little mistakes' are the most serious of all. The old saying, "the first start on the road of life determines the direction and destination of the journey" is a splendid one for every music student to keep ever before him.

Educationalists and psychologists in giving helps for the formation of useful habits first mention a strongly decided initiative and secondly, undivided attention upon the task before them. We have the lives of the great masters as positive examples of the fruits of undivided attention and by their lives we learn that not by spasmodic efforts and doing things with all one's might just now and then, did they gain the name of master of their art. But only by concentrating all the energy of mind, hand and heart upon their work and in this way the power to do the right thing triumphed. John S. Bach said, "I was industrious. Whoever is equally sedulous will be equally successful." And Handel's biography says of him, "He braved everything, and by his unaided self, accomplished the work of twelve men." Mozart said, "Work was his chief pleasure." If



all piano players would only learn the value of this principle how much time and every might be saved. If one hour a day was spent in concentrated practice a great deal more would be gained than to waste three or four hours in "just practicing" listlessly and with no particular thought upon the work. The one hour of concentrated effort gives you the other two or three hours to be profitably and pleasurably spent in cultivating other general things and also in taking vigorous outdoor exercise. This last is essential to good practice because it rests the nerves and gives one a better control of the muscles and the nerves, besides you come back to your practice with a firmer will and are much better fitted to use your mental powers. You feel rested and want to practice after taking such exercise and have rested a while. A celebrated English man once said to his son who was away at school, "Be a whole man at everything" and this is a splendid motto for the musician. It takes a great deal of will power to carry out such a program, and although every music student who really loves his work cannot expect to be a genius, he can very probably accomplish more than he feels himself to be doing if he is willing to vigorously apply himself and work, it is the will behind the desire that accomplishes such maxims as "an intense desire itself transforms possibility into reality."

Thirdly, we must think of thought in the closest connection with all of our practice. We have spoken of the economic necessity for automatizing a great many of the movements of the hands and fingers, but the average pupil does not realize the value of earnest thought, even in the simplest of finger exercises which so often are merely mechanical. No matter what







we are doing, whether it is manual labor or work in any of the arts, we do not excel nor even do our work passably well without intelligent thought. And teachers should never conduct a lesson if the pupils thought is not centered upon the work they are doing. Because the pupils hand in the medium through which all of his musical thoughts are transmitted and so that his hand may express well these ideas, it must be trained and efficient. And this is only accomplished by concentrating. If he plays listlessly or absent mindedly it would be much better for him to stop working because he will perform useless and harmful motions which weakens his progress, and although it is of unlimited value to every worker to bring much of his work into the plane of habit and automatize certain movements of the hands and fingers, the best work is done when deep thought directs the work of the player.



## MEMORY AND HABIT IN MEMORIZATION

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The psychology of memorizing includes the succeeding mental states of sensation, perception, conception, habit and memory. Of course the more any one of the senses is trained, the more that particular sense aids the memory. For example, one may have visual, auditory or retentitive memory, according as the senses of sight, hearing, and touch have been developed by training.

The process in the creation of memory is as follows: "The sensations received from any action, voluntary or involuntary, are carried instantly by nerve messengers to the brain, where, they are recorded. Here, if they are recognized and form a mental image, that is if we think what we are doing, perception occurs. In proportion to the clearness and distinctness of this image will be the minds understanding of it and the consequent hold taken of it by the memory. The remembrance of anything, therefore, depends on the vividness of the impression first made upon the mind by it, and this impression depends upon the degree of attention with which the subject in question was considered."<sup>1</sup>

And so we see the necessity of observing well and with keen attention, and we learn the value of watching closely over the first sensations produced by the hand in practicing. If these motions are made unconsciously and lack close attention, the mental images produced will be indistinct and no matter how many repetitions of a passage are made, if they are done so unthinkingly, little progress has been made toward real memoriz-

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1. "Let the Mind Rule Memory" Grace Busenback "Etude"





ing. There is one gain in this half conscious repetition and it might be called a kind of "finger memory" but this is very untrustworthy and if the fingers fail when playing the performer is completely lost unless he has the mind acting as a prompter. So the kind of a memorized product that one acquires depends altogether upon the first sensations, so memorizing really begins with the very first movements in the practice of a piece. We discussed in the preceeding chapter the tendency which any sensation has to travel the second time the same road which it took the first time. These sensations soon make a real pathway in the plastic tissues, this is the basis of our law of habit and this is why accuracy is indispensable in memorizing. Habit will be either for or against everyone and in every piece of music we learn either good or bad habits will be formed.

We have recognized the importance of that skill which results in learning things and at the bottom of this lies the property of plasticity which we learned held such an important place in the formation of habits. And it is because of this acquired skill that we are able to perform such acts as singing and playing the piano. The activity of memory is the greatest during childhood when the brain substance has the highest degree of plasticity. We have a good example of this plasticity of memory in Mozart, when he wrote out in full the Miserere of Allegri. The Miserere is a part of the service in the Popes chapel in Rome and the manuscript was always guarded with great care in the Archives of the chapel. Anyone giving a note of this to an outsider was open to excommunication. When Mozart was taken to Rome by his father he went to the service at St. Peter's and was so fascinated by the music that in the night he



got up and wrote the entire score of this sacredly guarded piece.

There are really two ways of memorizing. One is to rely upon finger habit and the other is to rely upon mental understanding. The first of these is the usual one for the majority of students and is the easier for most people. It is a result gained from simply playing the piece over so many times that the fingers seem to fall into place without effort, and usually there are a few "mile posts" in the mind, consisting of short phrases or even no more than a single chord. This is all very fine when perfect control of the nervous system is retained and at home the student thinks he knows the piece. But when he has even a small audience and becomes the least bit nervous his fingers forget their cunning and shake, hit wrong notes all the time and consequently he breaks down, all because his mental faculties have no grasp on the situation.

The second method of memorization is that of a trained mind. The student should know every individual note, but it is quite enough to follow the modulations, realize the balance of the musical phrases, and to grasp the general form of the piece as a whole. Then a little nervousness does no harm. Mr. Earl Deloss Hamer gives us a fine thought in this kind of memorization when he speaks of "mental technic" and he says, "having discovered the necessity for mental technic, I soon developed the habit when memorizing of never playing faster than I could think, I found that when I had reached a certain stage of velocity my head could not follow my hands, and I had to go back to the old way of relying on my fingers. By this time I had reached a certain stage when I discovered that this was exactly what I must not do, so I kept pegging away, playing







everything slowly until my mind could follow all the details of my fingers. After a while my mental technic developed sufficiently to enable me to keep pace with my fingers and from that time on I have never had any difficulty in memorizing."

Marmoutel, a noted French Pianist and teacher urged the necessity for tremendous musical memory. He thoroughly believed in mechanical perfection, he said, "no one can express what one cannot perform unconsciously no matter how true and dear the conception may be."

Moszkowski insists upon memorizing everything - "What sense is there" he asks, "in keeping the eyes and ears glued to the same pages month after month, without gathering either notation or idea into the mind" - "This is all a bad habit," he adds, "a habit to be overcome or prevented by logical persistent and intelligent direction."

Most young students, almost instinctively soon play their first pieces "without the music" while we often find adults who have studied music more or less all of their lives and only know one or two studies and pieces by memory, and usually these have been acquired, almost unconsciously in childhood. Automatism enters very early into the little child's practice. They "get into the habit" of picking out themes and chords by remembering the different positions of the hands on the black and white keys. This is in direct contrast to the manner in which adults best acquire a habit of memory playing. Because the latter is usually done through an appeal to the intelligence. Their age and experience makes cultivation of mind an easy task and their knowledge of harmony generally greatly aids the process.

The first kind of memorizing is dangerous. It is



the sort where a piece has been played over a great many times and has seemed to memorize itself. Here no conscious effort has been made, the fingers run automatically through the piece like pieces of machinery. This is a very dangerous and the most treacherous form of memorizing. After a great many repetitions it almost seems that the fingers have a kind of memory all of themselves. This seems true because you can play and talk with some one and the fingers play on just as if nothing had happened. Experience proves that this subconscious memorizing does not last. William Theodore Thompson tells us that, "Nothing should be played subconsciously, but the mind must be keenly alert to every movement, accented, as it occurs in either hand, and as to whether it is made by the touch alone or with the aid of the sight in addition."

The usual difficulty which so many people confront in their memorizing lies in the time and energy wasted in learning a passage or a piece of music by thoughtless and mechanical repetition. An effectual way to correct this and to accomplish the object is to return several times, with short intervals of rest, to the identical phrase, re-examining it and deepening it by a mental act. Consciously storing away a piece in the mind in this manner means that it can be summoned at any time to be reviewed and deepened. Leschetizky says, "Think ten times and play once."

After considering the question of two kinds of memorizing there comes to every student the all important question of "How to go about it." In taking up a new piece the key must be thought of, the way in which the time is divided and the kind of chords. H. T. Wrightson gives us an idea in memorizing, of







learning keys on the key board instead of notes on the printed page. He says for instance that "in the chord B-sharp, D-double flat, F-double sharp, is it not much easier to think of the keys rather than the printed page." It is a good plan to think of what you are going to play next, even in sight reading and in this way you find yourself playing the note or chord in a very different way. The idea should come first and the action afterwards.

Ossip Gabrilowitsch says "Before beginning to memorize one must have some what of a grasp of the piece as a whole, must realize what it is all about, know its subdivisions and so forth."

He also gives visual memory the first place among the different ways of memorizing. Declaring that the only sure way of memorizing is to be able to "bring the printed page before the minds eye at any point in the composition." I think that every player has met at some time that indescribable feeling which starts one to wondering what comes five bars ahead. Then, surely, being able to mentally go over the piece "saves the day." Of course this cannot be done in all kinds of pieces because it would be impossible for the mind to follow notes in a very rapid composition. Picturing the notes is a great help in remembering what one hears. If at the time an especially beautiful chord is heard, it is visualized, often when you try to recall it, and play it, the ear has failed in its work, you may see just how these notes will look and the efforts to reproduce the chord is greatly aided.

Another great help in memorizing is to study the design of phrases in a piece. Analyze two or three phrases and often there may be found only a slight variant in the repetition



or several measures may be based on a certain figure in the right hand, followed by two or three measures in which only a slight change is made.

In summing up the art of memorizing I think we find the three essentials of concentration, analysis and the formation of habits.

Concentration consists in good mental control backed up by a definite purpose. And anyone who has this purpose and will concentrate his attention on acquiring this faculty will learn to do so.

In analysis we must thoroughly examine our methods of study and discard all that is careless and haphazard. And this includes studying minutely the construction of the piece, which necessitates accuracy of detail and good judgment.

And by the third important thing, we eliminate the word difficulty. "Habit can only be formed by memorizing being commenced with the very first lesson."<sup>1</sup> And it should be a part of every lesson until the correct habit is formed.

And lastly I think the artistic value of memorizing should inspire every player to at least a small repertory of pieces all going at the same time. Imagine our going to a play and have the actors and actresses come out, book in hand, and read their lines from a printed page. And although we know the actors words are not original and that they are only the interpretation of the author's ideas, still two things are required; the ability to keep the content of the original work and to present it plus any extra talent which the interpreter may possess.

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1. Grace Busenback - Etude

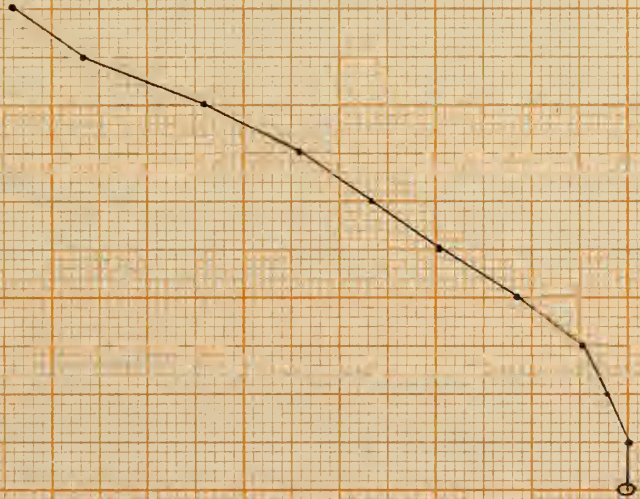




"Memorizing then, is getting ideas from the work in hand, and if it has been said that facts are stubborn things, we may also say that ideas are stubborn things, and very durable. Playing from memory should be in fact just this, playing from memory, what you really know about the piece."



Average Mistakes per Measure

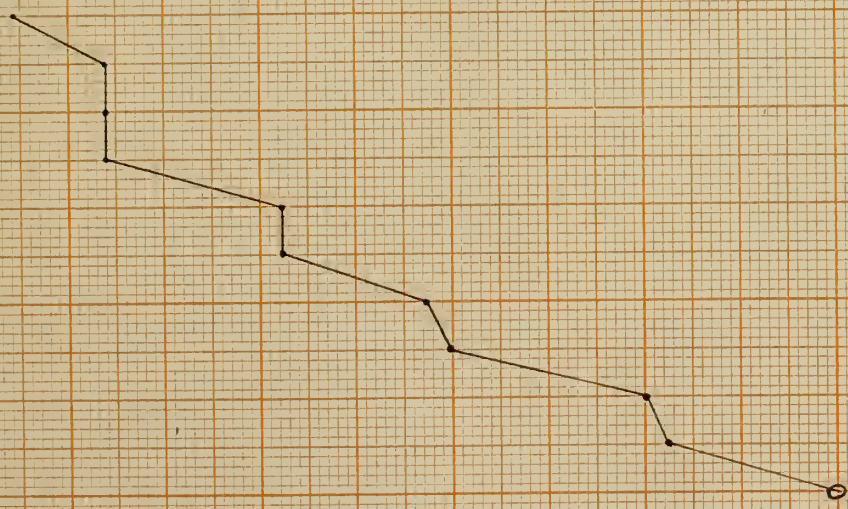


Measures

The eight subjects visualized ten measures of the melody of Rudolph Friml's "At Twilight" for two minutes, then writing it from memory with the average number of mistakes to a measure as shown in the graph.







The eight subjects memorized ten measures of Schumann's "Walter", Opus 10, the average time spent in memorizing being 42 minutes, 22.5 seconds. One week later they played the passage with the average mistakes to a measure as shown in the graph.

Measures

Average Mistakes per Measure

